

## General

### Title

Advanced chronic kidney disease (CKD): percent of patients prescribed vitamin D<sub>2</sub>.

### Source(s)

Renal Physicians Association. Appropriate patient preparation for renal replacement therapy. Rockville (MD): Renal Physicians Association; 2002 Oct 1. 78 p. (Clinical Practice Guideline; no. 3).

## Measure Domain

### Primary Measure Domain

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

### Secondary Measure Domain

Does not apply to this measure

## Brief Abstract

### Description

This measure assesses the percent of patients prescribed vitamin D<sub>2</sub> among patients with advanced chronic kidney disease (CKD) and immunoreactive parathyroid hormone (iPTH) greater than 100 pg/mL (or greater than 1.5 times the upper limit of normal for each assay used) and vitamin D level less than 30 ng/mL.

### Rationale

Renal osteodystrophy is a complex and multifaceted disease process that begins early in the course of chronic kidney disease (CKD) and is a major, long-term complication associated with high rates of morbidity. The metabolic and skeletal derangements associated with renal osteodystrophy are not easily

reversed and, therefore, early interventions are crucial.

Serum levels of 1,25(OH)<sub>2</sub>D correlate with 25(OH)D in CKD stage 3 and 4, indicating that the generation of 1,25(OH)<sub>2</sub>D in CKD patients depends on supply of 25(OH)D. Patients with CKD are more likely than non-CKD patients to have 25(OH)D levels less than 30 ng/mL. Levels of 25(OH) vitamin D less than 30 ng/mL but within the normal range have been associated with elevated immunoreactive parathyroid hormone (iPTH) levels in the elderly, and levels less than 15 ng/mL have been associated with a greater severity of secondary hyperparathyroidism (HPTH) in end-stage renal disease (ESRD) patients. Therapy may reduce fracture risk in the elderly.

## Primary Clinical Component

Advanced chronic kidney disease; renal osteodystrophy; immunoreactive parathyroid hormone; 25(OH) vitamin D; vitamin D insufficiency

## Denominator Description

The number of adult patients with advanced chronic kidney disease (CKD), not currently receiving renal replacement therapy, with immunoreactive parathyroid hormone (iPTH) greater than 100 pg/mL (or greater than 1.5 times the upper limit of normal for each assay used) and vitamin D level less than 30 ng/mL

## Numerator Description

The number of patients from the denominator prescribed vitamin D<sub>2</sub>

## Evidence Supporting the Measure

### Evidence Supporting the Criterion of Quality

A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence

A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences

A systematic review of the clinical literature

## Evidence Supporting Need for the Measure

### Need for the Measure

Unspecified

## State of Use of the Measure

### State of Use

Pilot testing

## Current Use

Internal quality improvement

## Application of Measure in its Current Use

### Care Setting

Ambulatory Care

Physician Group Practices/Clinics

### Professionals Responsible for Health Care

Physicians

### Lowest Level of Health Care Delivery Addressed

Individual Clinicians

### Target Population Age

Age greater than or equal to 18 years

### Target Population Gender

Either male or female

### Stratification by Vulnerable Populations

Unspecified

## Characteristics of the Primary Clinical Component

### Incidence/Prevalence

Unspecified

### Association with Vulnerable Populations

Unspecified

### Burden of Illness

Levels of 25(OH) vitamin D less than 30 ng/mL but within the normal range have been associated with elevated immunoreactive parathyroid hormone (iPTH) levels in the elderly, and levels less than 15 ng/mL have been associated with a greater severity of secondary hyperparathyroidism (HPTH) in end-stage renal

disease (ESRD) patients.

## Evidence for Burden of Illness

Ghazali A, Fardellone P, Pruna A, Atik A, Achard JM, Oprisiu R, Brazier M, Remond A, Moriniere P, Garabedian M, Eastwood J, Fournier A. Is low plasma 25 (OH) vitamin D a major risk factor for hyperparathyroidism and Looser's zones independent of calcitriol?. *Kidney Int.* 1999 Jun;55(6):2169-77. [PubMed](#)

## Utilization

Unspecified

## Costs

Unspecified

# Institute of Medicine (IOM) Healthcare Quality Report Categories

## IOM Care Need

Living with Illness

## IOM Domain

Effectiveness

# Data Collection for the Measure

## Case Finding

Users of care only

## Description of Case Finding

Adult patients 18 years and older with advanced chronic kidney disease (CKD) and immunoreactive parathyroid hormone (iPTH) greater than 100 pg/mL (or greater than 1.5 times the upper limit of normal for each assay used) and vitamin D level less than 30 ng/mL

## Denominator Inclusions/Exclusions

Inclusions

Adult patients age 18 years and older with chronic kidney disease stage 4 or 5 (glomerular filtration rate [GFR] less than or equal to 30 mL/min/1.73 m<sup>2</sup>), not currently receiving renal replacement therapy, with immunoreactive parathyroid hormone (iPTH) greater than 100 pg/mL (or greater than 1.5 times the upper

limit of normal for each assay used) and vitamin D level less than 30 ng/mL

Exclusions

Unspecified

## Relationship of Denominator to Numerator

All cases in the denominator are equally eligible to appear in the numerator

## Denominator (Index) Event

Clinical Condition

## Denominator Time Window

Time window precedes index event

## Numerator Inclusions/Exclusions

Inclusions

The number of patients from the denominator prescribed vitamin D<sub>2</sub>\*

\*Prescribed vitamin D dosage is vitamin D<sub>2</sub> 50,000 units orally every month for six months.

Exclusions

Unspecified

## Measure Results Under Control of Health Care Professionals, Organizations and/or Policymakers

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

## Numerator Time Window

Episode of care

## Data Source

Administrative data

Laboratory data

Medical record

Pharmacy data

## Level of Determination of Quality

Individual Case

## Pre-existing Instrument Used

Unspecified

## Computation of the Measure

### Scoring

Rate

### Interpretation of Score

Better quality is associated with a higher score

### Allowance for Patient Factors

Unspecified

### Standard of Comparison

Internal time comparison

## Evaluation of Measure Properties

### Extent of Measure Testing

Unspecified

## Identifying Information

### Original Title

Number of patients prescribed vitamin D<sub>2</sub> / number of patients with advanced CKD and iPTH greater than 100 pg/mL (or greater than 1.5 times the upper limit of normal for each assay used) and vitamin D level less than 30 ng/mL.

### Measure Collection Name

Renal Physicians Association Clinical Performance Measures on Appropriate Patient Preparation for Renal Replacement Therapy

### Measure Set Name

Clinical Performance Measures for Bone Disease Recommendations

## Submitter

Renal Physicians Association - Medical Specialty Society

## Developer

Renal Physicians Association - Medical Specialty Society

## Funding Source(s)

Ortho Biotech Products, LP

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## Financial Disclosures/Other Potential Conflicts of Interest

There were none disclosed.

## Adaptation

Measure was not adapted from another source.

## Release Date

2002 Oct

## Measure Status

This is the current release of the measure.

## Source(s)

Renal Physicians Association. Appropriate patient preparation for renal replacement therapy. Rockville (MD): Renal Physicians Association; 2002 Oct 1. 78 p. (Clinical Practice Guideline; no. 3).

## Measure Availability

The individual measure, "Number of patients prescribed vitamin D<sub>2</sub> / number of patients with advanced CKD and iPTH greater than 100 pg/mL (or greater than 1.5 times the upper limit of normal for each assay used) and vitamin D level less than 30 ng/mL," is published in "Renal Physicians Association Clinical Practice Guideline #3: Appropriate Patient Preparation for Renal Replacement Therapy."

For more information, contact RPA at 1700 Rockville Pike, Suite 220, Rockville, MD 20852; phone: 301-468-3515; fax: 301-468-3511; Web site: [www.renalmd.org](http://www.renalmd.org) ; e-mail: [rpa@renalmd.org](mailto:rpa@renalmd.org).

## NQMC Status

This NQMC summary was completed by ECRI on May 23, 2003. The information was verified by the Renal Physicians Association on June 17, 2003.

## Copyright Statement

This NQMC summary is based on the original measure, which is subject to the measure developer's copyright restrictions.

For more information, contact RPA at 1700 Rockville Pike, Suite 220, Rockville, MD 20852; phone: 301-468-3515; fax: 301-468-3511; Web site: [www.renalmd.org](http://www.renalmd.org) ; e-mail: [rpa@renalmd.org](mailto:rpa@renalmd.org).

## Disclaimer

NQMC Disclaimer



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